The national antimicrobial resistance monitoring system

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The National Antimicrobial Resistance Monitoring System (NARMS) began on January 1, 1996, as a collaborative study conducted by CDC, the FDA-Center for Veterinary Medicine, and 14 state and local health departments to prospectively monitor the antimicrobial resistance of human non-typhoidal Salmonella and Escherichia coli O157 isolates. In 1997 a study was also initiated to examine the antimicrobial resistance of Campylobacter isolates. In 1996, 1272 Salmonella isolates and 187 E. coli O157 isolates were forwarded to CDC. Twenty percent of E. coli O157 isolates were resistant to at least one antimicrobial agent, and 7% were resistant to ³2 agents. The most common resistance in E. coli O157 was to sulfamethoxazole (13%), while in Salmonella the most common resistance was to tetracycline (24%). None of the isolates were resistant to ciprofloxacin or ceftriaxone. Of the Salmonella isolates received, 292 were serotype Typhimurium. Of those, 95 (33%) were resistant to five antibiotics (ampicillin, chloramphenicol, streptomycin, sulfamethoxazole, and tetracycline) commonly associated with the DT104 phage type. Preliminary data from antimicrobial resistance testing of Campylobacter isolates revealed that 12.8% of the isolates were highly resistant to ciprofloxacin, with MICs of >32 µg/ml. Nonhuman Salmonella and E. coli O157 isolates were tested for resistance to the same group of antimicrobial agents by the USDA-Agricultural Research Service using a parallel surveillance system. In summary, NARMS is a national surveillance system to monitor trends in antimicrobial resistance of enteric organisms among human and non-human populations in the United States.

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